REMARKS

Claims 1-6 and 8-13 were rejected under 35 USC 103 as being unpatentable over Peters, US Patent 5,715,334 in view of Burfeind et al, US Patent 6,052,648. Applicants respectfully traverse.

The Examiner asserts the following:

- a "visualization interface," which is a module, or a technique used in a module, is taught by Peters teaches in FIG. 5 and the associated text at col. 14, line 63 to col. 14, line 36,
- "a plurality of processing tools" is taught in FIG. 6, and the associated text at col. 18, line 59 to col. 19, line 1
- "means that enables streaming the data to and through one or more said processing tools to create data results for updating one or more objects, which one or more object may be displayed by the visualization interface" is taught at FIG. 23, and the associated text at col. 29, lines 22-65.

Applicants respectfully disagree.

As for the first assertion, strictly speaking FIG. 5 merely illustrates an image. The illustrated image is rather strange because it attempts to exemplify the different sized "blobs" that can be categorized into the four classes that Peters discloses, as explained by the first sentence of the passage cited by the Examiner, which states: "Referring to FIG. 5, the information content of a digital full frame image can be categorized into a non-random (structural) class of features and details, and a random class of noise." The remainder of the first paragraph of the passage cited by the Examiner merely goes on to describe the characteristics of the four classes of features and details. The remaining text of the cited passage states:

> Image evaluation of microscopy, radiological and other similar data requires that all image details are made to be identifiable by visual pattern recognition while maintaining the spacial relation of details within the overall image. This implies that low intensity details be contrast enhanced by a factor of 10-100 and that the smallest spacial details be enlarged by a factor of 10-20. However, for correlative image component evaluation, only three image processing tasks are required.

This suggests, basically, that some features may be contrast enhanced or enlarged, but it teaches nothing relative to a visualization interface. Actually, even by the Examiner's

own standard for what an interface is, neither FIG. 5 nor the cited text pass muster. Simply stated, FIG. 5 and the associated text do not teach or suggest a module, or a technique that is used in a module. Therefore, applicants respectfully submit that if Peters has a visualization interface, or a visualization module, one cannot infer it from FIG. 5 and the associated text cited by the Examiner.

As for the processing tools, applicants also respectfully disagree with the Examiner. FIG. 6 can be viewed as having three parts. The top part, titled "Image Information Analysis" depicts a process or, more accurately, images at different stages of a process. That does not describe a plurality of tools, in the sense of modules. However, it is noted that the passage cited by the Examiner does state, *inter alia*, that "The data reduction to individual intensity information classes provides a new and unique tool for the analysis of image information and quantitation of the image information content and image quality." However, the word "tool" in the above-quoted sentence really means "an approach" rather than a specific module that performs a function. The situation is not unlike a reference using the word "tank" to represent the war-machine, and a claim using the word "tank" to represent a container for water. Moreover with respect to the "tool" cited by the Examiner, it is noted that neither the top part of FIG. 6, nor the cited associated text describe a plurality of tools.

Continuing the review of FIG. 6, the middle part, titled "Image Information Classes" depicts the four digital information classes, and that certainly is not a teaching of a plurality of tools (or even one tool). It is merely a pictorial depiction of information class characteristics.

Lastly, the bottom part of FIG. 6, titled "Quantitation of Information and Quality" is also a pictorial representation. The representation is of an "information cube," and that, too, is not a plurality of tools (or even one tool). Though the image of the information cube is, no doubt, the result of processing in a module, or a tool, that does not evidence the existence, or the suggestion of a plurality of tools.

Hence, the particular FIGS. cited by the Examiner, and the associated text cited by the Examiner do not describe a visualization interface, or a plurality of tools.

As to the Examiner's third assertion (pertaining to the fourth clause of claim 1), applicants respectfully submit that neither the FIG. nor the text describe or suggest that

which the Examiner asserts. What FIG. 23 does depict is a plurality of "information cubes," and the cited text states:

> The definition in digital images of any origin and content through PAIP of defined contrast classes and the quantitation of these classes provides a unique and new tool for image quality quantitation. The four intensity information classes can be schematically represented in an information cube (FIG. 23) which depicts the relative significant intensity (z coordinate) over the image (x and y coordinates).

Based on the above, it is clear that FIG. 23 depicts the "information cubes" of various types of images, where the details of the imaged information cube conveys information about the data. It is not clear, though, whether the images of FIG. 23 are of the same collection of data that is analyzed differently, or merely the image that results from data obtained from different sources. In any event, neither one "information cube" nor the collection of "information cubes" teach or suggest "**streaming** of data to and through one more tools."

In the previous Office Action response, where applicants faced the same rejection, based on the same citation of FIG. 23 and associated text, applicants explained the meaning of the term "streaming," and argued the Peters does not teach or suggest streaming. The Examiner's remarks in the current Office Action suggest that the Examiner totally ignored applicants' argument. Although in the "Response to Arguments" the Examiner addressed the paragraph in applicants' response to the previous Office Action in which the argument regarding the fourth clause of the claim begins, curiously ignores the primary focus thereof, and disagrees with something that applicants have not even asserted. That is not right. To be fair, the Examiner should address the primary focus of the paragraph, if not the whole paragraph, which states:

> The Examiner asserts that Peters discloses a visualization interface, a plurality of processing tools, and "means for streaming data to one or more of the processing tools...." In support of the latter assertion, the Examiner points to FIG. 23 and col. 29, lines 22-65. Applicants respectfully disagree.

Clearly, the focus of applicants' disagreement with the Examiner was the citation to FIG. 3 and col. 29, lines 22-65 and, the fact that this is the paragraph's focus is buttressed by the following paragraph in applicants' response, which addresses the applicability of

FIG. 23 and the associated cited text to the fourth clause of the claim -- not to the first clause (which defines the "visualization interface").

In short, applicants believe that the Examiner has ignored, or at least not given proper weight to applicants' arguments in the response to the previous Office Action, which demonstrated that the fourth clause of claim 1 is totally absent from the teachings of the Peters reference, and which clearly make the claim patentable in view of 35 USC 103.

Addressing the fourth clause of claim 1 substantively again, applicants respectfully incorporate the arguments made in the previous Office Action response. Additionally, the fourth clause of applicants' claim 1 specifies that the means to enable streaming facilitates creating "data results for **updating** one or more objects" (emphasis supplied). It is quite clear that Peters does not teach or suggest creating results for **updating** one or more objects; i.e., objects that have been created previously, for example, from previous data, whether by streaming or otherwise. No updating whatsoever is described or suggested in the Peters reference. Put another way, even if Peters taught streaming of data -- which he has not -- it would still remain that there is not teaching of streaming of data "to and through one or more of said processing tools to create data results for updating one or more objects."

Furthermore, and linked to the fourth clause of claim 1, it should be noted that the notion of streaming is always associated with real-time systems. That is, real-time systems are systems that (1) receive data on a continuous basis and (2) immediately handle the data and dispose of it. Claim 1 indeed specifies that the defined system is a real-time system, and this specification in the preamble is a limitation of the claim by virtue of the definition of the means that enables streaming. In contra distinction, there is no indication anywhere in the reference (and the Examiner has not pointed to any) that the Peters system is a real-time system; and as remarked above, the Examiner appears to have totally ignored the word "streaming" as a limitation of the claim. As an aside, it is noted that the distinction between streaming data through two operations, and merely applying data to one operation following another operation, is actually present in the language of the UNIX operating system, where streaming has its own operator (sometimes is called the "pipe").

As for the third clause of claim 1, the Examiner reiterates the assertion that Burfeind et al teach "means for accessing data in a self describing format" at FIG. 5-6, 9 and in the text passage found in col. 5, lines 2-13.

Applicants are at a loss. It is hard to understand how the Examiner points to FIG 5 and 6, which depict different images, and asserts that they are "means." While one must surmise that these images come from stored files, it is also hard to understand how such images describe ANY format. FIG. 9 depicts a system, but it also does not depict a file, a format of a file, or the notion of the file having a "uniform self-describing format." At best, one might say that these FIGS., as a whole, depict a system that employs files to create a composite image. The associated text cited by the Examiner supports such a characterization but, as indicated in the response to the previous Office Action, the notion of employing files to create a composite image neither teaches nor suggests that the files are ones that have a "self describing format." It is noted that also that the notion employing files to create a composite image does not teach or suggest a "**uniform** self-describing format" (emphasis supplied), and it also does not teach or suggest that such files were converted to such a format from some other format.

In conclusion, it is respectfully submitted that the FIGS. and text cited by the Examiner in the Peters reference do not teach the first and second clause of claim 1, that the FIGS. and text cited by the Examiner in the Peters reference definitely do not teach or suggest the fourth clause of claim 1, and that the Burfeind et al reference does not teach or suggest the third clause of claim 1.

In light of the above, it is respectfully submitted that amended claim 1 is not obvious in light of the Peters and Burfeind et al combination of references.

As for independent claim 8, it is respectfully submitted that the above arguments apply with equal vigor. That is, claim 8 contains the following limitations that are also found in claim 1, and discussed above:

- a "real-time" system
- data files that have been converted to a <u>self-describing</u> format
- the self-describing format of the files is <u>uniform</u> (i.e. different types of files have a different content in the section that self describes the file, but the format of that section is uniform)

- streaming of data to and through one or more processing tools

It is respectfully submitted that any one of these limitations is sufficient to render claim 8 patentable over the Peters and Burfeind et al combination of references. Collectively, they certainly render claim 8 unobvious in view of the Peters and Burfeind et al combination of references.

As for the dependent claims, at least some of the claims add limitations that by themselves impart patentability over the Peters and Burfeind et al combination of references. For example, prior art systems that apply data to a module for processing do not make any data available until the module finishes the processing. In contradistinction, claims 4 and 11 specify that the visualization interface can access the data results as the processing tools are working on the data. In rejecting the claims that Examiner cites FIG. 6 and the text at col. 18, line 59 to col. 19, line 1. Applicants respectfully disagree that either FIG. 6 or the cited text suggest this capability teach that which the Examiner asserts. It is respectfully submitted that the text does not speak of **any** timing relative to processing, and FIG. 6 shows image information analysis results, but there is no indication in the FIG. as to the timing generally, or the notion of accessing data results as the processing tools are working on the data.

With reference to claims 5 and 12, the Examiner asserts that the passage in the col. 6, line 59 to col. 7 line 6 of the Peters reference teaches "the visualization interface enables selection of a portion of the data results such that data corresponding to the portion selected may be accessed and processed in real-time to create second data results that are displayed on the visualization interface." Applicants respectfully disagree. The cited passage states:

> The new detail filter produces detail images which characterize the intensity distributions within an image. It provides a tool for a novel method of image information analysis and classification based on the concept that any image communicates information only through image contrasts which are intensity variations between certain pixel arrays within the total data matrix. An area of certain contrast is defined by the differences between its average intensity and the surrounding intensity irrespectively of the overall intensity variations (background).

The passage teaches that an image has intensity variations, which produce contrast, but it neither teaches nor suggests the notion of selecting a portion of the data results, accessed in real time, creating a second data result therefrom, and displaying the second data results separately.

As for claims 6 and 13, the Examiner asserts the Peters teaches the limitation of the claims in FIG. 6, and in the associated text at col. 18, line 59 to col. 19, line 5. Applicants respectfully disagree. As to the content of FIG. 6, the Examiner's attention is respectfully to the discussion above. In applicants' view, FIG. 6 clearly does NOT describe or suggests creating new processing expressions, and certainly not compiled and dynamically linked to the processing tools. As for the text cited by the Examiner, it addresses the fact that the Peters' invention discloses individual intensity information classes and that this approach to analysis of images leads "to the discovery that all known contrast mechanisms of any technical imaging equipment ... establishes one of the three basic intensity variations found as structural class in digital images." None of this teaches, or suggests, the notion of creating new processing expressing, or even allowing the creation of new processing expressions. Therefore, it is respectfully submitted that claims 6 and 13 are not obvious in view of the cited references, taken singly or in combination.

In light of the above remarks, applicants respectfully submit that all of the Examiner's rejections have been overcome. Reconsideration and allowance are respectfully solicited.

Respectfully,
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